

Free YouTube to MP3 Conversion Server

For our final project we have decided to create a tool to convert YouTube videos into .mp3 audio files. As music creators this is a task that is needed semi-often but is always a hassle. By creating this tool, we can get the audio reference material quickly and cleanly with no subscriptions, paywalls, or risks of malware infection/malicious payload delivery to the local host machine or network. To accomplish this task, we will be writing two scripts: a trigger script, and a conversions script. The trigger script will be on the local host machine, while the conversion script will be loaded onto the EC2 instance. The final converted file will then be stored in an S3 bucket for download.

Local Host Machine:

- Loaded with the trigger script (trigger.py).
- The script will communicate with the EC2 instance through AWS SDK (Boto3).
- It will collect the user's input (the YouTube URL).
- It then sends the YouTube URL as a command to the EC2 instance to initiate the conversion process.

EC2 Instance:

- Loaded with the conversion script (convert.py).
- The EC2 instance will listen for commands from the trigger script running on the local host machine.
- It will receive the YouTube URL sent from the local host machine.
- The URL will be used to download the video from YouTube.
- The downloaded video will be converted to .mp3 format.
- The resulting .mp3 file will be uploaded to an S3 bucket using AWS SDK (Boto3).
- The link to the uploaded .mp3 file will be delivered back to the local host machine for download.
- The converted file will then be deleted from the S3 bucket after a pre-determined amount of time to save storage space.

This setup will enable control and orchestration of the YouTube video conversion process on the EC2 instance remotely from a local host machine.

Timeline

- Initial project planning - 11/20/23
- 1st Phase coding - conversion script - 11/21/23
- 1st Phase code review - 11/22/23
- Estimated completion of conversion script - 11/22/23
- Thanksgiving Holiday - 11/23/23
- 2nd Phase coding – trigger script - 11/24/23
- 2nd Phase code review – trigger script - 11/25/23
- Estimated completion of trigger script - 11/25/23
- Final project testing/debugging - 11/26/23 - 11/30/23
- Estimated availability of final project - 12/1/23
- Presentation of final product - TBD

Budget

We will be allotting a maximum budget of \$36,000 to cover time, expenses, and AWS resources, though we estimate the final number will be marginally lower than this figure.

Josh Brown _____ Date: _____

Jarré Owens Jarré Owens Date: 11/20/23